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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/600,048 | 06/19/2003 | Louis A. Lippincott | 884.899US1 | 6019 |
| 21186 | 7590 | 09/02/2005 | | |
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| | | | EXAMINER | |
| | | | TUNG, KEE M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2671 | |

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|----------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/600,048 | LIPPINCOTT, LOUIS A. |
| | Examiner | Art Unit |
| | Kee M. Tung | 2671 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 June 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

The response filed 6/2/05 has been considered in preparing this Office action.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Barker et al (5,617,577 hereinafter “Barker”).

As per claim 1, Barker teaches an apparatus (Fig. 2) comprising a first processor (one of the PME, such as +Z) having a first processor element and at least one I/O port within a first port ring (one of the external ports, 22, 23, 26); and a second processor (one of the PME, such as, +X) having a second processor element and at least one I/O port within a second port ring (one of the external ports, 22, 23, 26), wherein the second processor is coupled to the first processor through at least one I/O port of a third ring of a third processor (one of the PME, such as, +Y). Therefore, at least claim 1 is anticipated by Barker.

As per claim 2, Barker teaches the at least one I/O port of the first processor is not directly connected to the at least one I/O port of the second processor (such as, external port connects between processor +Z and +W instead of +X).

As per claim 3, the first processor, the second processor and the third processor are part of a number of processors in a point-to-point configuration (col. 12, lines 18-27).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-12 and 18-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barker et al (5,617,577 hereinafter "Barker") in view of Wilson (5,557,734).

As per claim 1, Barker teaches an apparatus (Fig. 2) comprising a number of image signal processors (PMEs) coupled together in a point-to-point configuration (col. 12, lines 18-27), wherein one image signal processor of the number of image signal processors includes at least one processor element (one of the PME, such as +Z) and a port ring (one of the external ports, 22, 23, 26), wherein the port ring includes a number of ports (such as, I/O ports), a port of the number of ports coupled to the other ports of the port ring and to a port of a port ring (one of the external ports, 22, 23, 26) of a different image signal processor (one of the PME, such as, +X). It is noted that Barker fails to explicitly teach or suggest the processor is an image signal processor and performing image process-based operations. Wilson teaches a parallel processing system comprising a plurality of processors connected in a ring network (Fig. 1, 26) for

processing image data (Fig. 1, 25). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to replace the generic processor of Barker which performs generic data operations by any well known specific digital signal processor, such as, the image processor of Wilson in order to perform the specific image process operations because replace one type of processor by another in the same place is considered within the level of ordinary skill in the art. Therefore, at least claim 7 would have been obvious.

As per claim 4, the combined system teaches the first processor is configured to transmit output from an image process operation to the second processor through the at least one I/O port of the port ring of the third processor based on a logical connection (Barker, Fig. 2, and col. 12, lines 1-18, any one of the PME can indirectly connects to any other PME via any number of intermediate PMEs and Wilson, Fig. 1, 25).

As per claim 5, Barker teaches the at least one I/O port within the port ring of the first processor , the at least one I/O port within the port ring of the second processor and the at least one I/O port within the port ring of the third processor comprise a FIFO memory (Fig. 4, 82).

As per claim 6, Barker teaches the at least one port of the first processor , the at least one port of the second processor and the at least one port of the third processor comprise a receiver port (input ports) and a transmitter port (output port) , wherein the first processor is configured to transmit the output based on a handshake protocol among the receiver ports and the transmitter ports of the first processor, the second processor and the third processor (Fig. 2, col. 12, lines 18-27).

As per claim 8, the combined system teaches the at least one processor element in a first of the number of image processors is configured to perform one of a number of image processed-based operations (one of the processors).

Claims 9 and 10 are similar in scope to claim 4, and thus are rejected under similar rationale.

As per claim 11, Barker teaches the logical connections are to originate at a source image signal processor (such as, a first processor) and traverse a number of intermediate image signal processors (in between PMEs) of the number of image signal processors and to complete at a destination image signal processor (last PME) of the number of image signal processors, wherein the source image signal processor is transmit an initialize signal, prior to transmission of data along the logical connection, through the number of intermediate image signal processors to the destination image signal processor in the order that data is transmitted in the logical connection (see Fig. 2 and col. 12, lines 1-18).

Claim 12 is similar in scope to claim 5, and thus is rejected under similar rationale.

Claims 18-21 are similar in scope to claims 7-12, and thus are rejected under similar rationale.

Claims 22-24, 25-27 and 28-30 are also similar in scope to claims 7-12, and thus are rejected under similar rationale.

5. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barker et al (5,617,577 hereinafter "Barker") in view of Wilson (5,557,734) and Poplin (us2003/0063213).

The teachings of Barker and Wilson are given in previous paragraph of this Office action. Barker further teaches a host processor (Fig. 1, 1), a host memory (2), a number of expansion interfaces (such as, external port from +Z, -Z, etc ..., also see Fig. 3B). However, the combined system fails to explicitly teach or suggest a CMOS sensor to capture image data. This is what Poplin teaches (Fig. 1, 112). Poplin teaches a digital image device (102) comprising an image sensor (112) and an image processor (114) and a host system (104) comprising a host processor (124) and host memory (120) and an image capturing parameter adjuster (122). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of CMOS image sensor of Poplin into the combined system of Barker and Wilson because CMOS image sensor provides high speed video capturing and thus further increase the overall image processing performance. Therefore, at least claim 13 would have been obvious.

As per claim 14, Barker teaches the at least one image signal processor comprises a hardware accelerator (PME) to execute image process operations.

As per claim 15, Barker teaches the image processor comprises a global bus (such as, bus connects to BCI 21 in Fig. 2) coupled to the number of expansion interfaces and the number of image signal processors, independent of the point-to-point configuration among the number of image signal processors.

Claim 16 is similar in scope to claim 11, and thus is rejected under similar rationale.

As per claim 17, Barker teaches traversal through the number of ports of the port rings of the at least one intermediate image signal processor is independent of image process operations by processor elements within the at least one intermediate image signal processors (col. 12, lines 1-18).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 10/600,047. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present application claims I/O port within the port ring (claim 1) would be obvious by the point-to-point connection of claim 4 of related application and another example is claim 13 of present application

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claimed a CMOS sensor and the related application claimed a CCD sensor which also would have been obvious to one of ordinary skill in the art to replace one from another.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

8. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

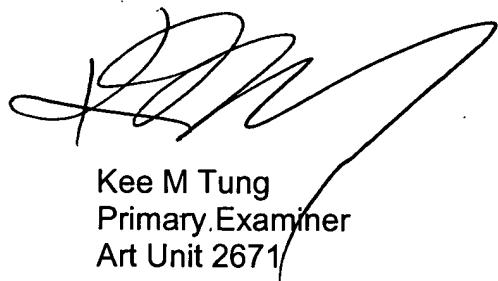
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M. Tung whose telephone number is 571-272-7794. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung
Primary Examiner
Art Unit 2671